

REMARKS

The Office Action mailed April 5, 2007 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

Subject Matter Indicated Allowed or Allowable

Applicants gratefully acknowledge the indication of allowance of claims 10 and 18.

Rejection(s) Under 35 U.S.C. § 102

Claims 1, 2, 5 and 13 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Huber (DE 199 58 548).

Huber discloses an optical coupler which uses either

- a waveguide the input face of which is matt, so that there is a surface scatterer at the input of the wave guide,
- or a waveguide in which scattering patterns are arranged (see Huber, column 2, lines 18-24), or the English abstract thereof: "scattering centers can be uniformly distributed in the volume of the first waveguide".

In the first case, the scattering figure from the surface scatterer is smoothed in the volume of the waveguide (as it occurs in the coupler which is disclosed in previously cited Ikushima et al.).

In the second case, Huber distributes scattering patterns in the volume of the waveguide which is constituted by a transparent medium consisting of quartz or polymer (see col. 2, ll. 22-28.) This is a generalization of the technique consisting of combining the use of a light guide and of several surface scatterers: light is scattered by scattering patterns as it would be scattered by a surface scatterer or a stack of several surface scatterers, and the scattering figure is smoothed in the waveguide. The function of the transparent material comprising the scattering patterns is comparable to a stack of several surface scatterers: the material fills some volume but does not correspond to a novel scattering technique.

Therefore, Huber uses a combination of techniques which are known by a person skilled in the art in order to try to homogenize a light beam—namely the scattering of the beam on a

surface scatterer or a combination of surface scatterers, and a smoothing in a waveguide. These techniques can be used alone or in a combined manner, in one or another order.

In contrast, the present invention proposes an innovative technique: each of the devices according to claims 1 and 2 uses a volume scatterer, namely a homogenous material in which light scattering takes place at any point of the volume according to laws of radiation transfer of a physical model which is described in the present application. Intrinsically, each of the devices does not use a light guide or a surface scatterer or a combination of surface scatterer in order to achieve scattering.

It will be appreciated that, according to the M.P.E.P., a claim is anticipated under 35 U.S.C. § 102 only if each and every claim element is found, either expressly or inherently described, in a single prior art reference.¹ The aforementioned reasons clearly indicate the contrary, and withdrawal of the 35 U.S.C. § 102 rejection based on Huber is respectfully urged.

Rejection(s) Under 35 U.S.C. § 103 (a)

Claims 3, 7, 9, 11, 15, 17 and 19-22 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Huber (DE 199 58 548). Claims 3, 7, 9, 11, 15, 17 and 19-22 include the limitations of base claims 1 and 2, including the use of a volume scatterer. Such use is not suggested by Huber and one of ordinary skill in the art would not have found it to be obvious. Claims 3, 7, 9, 11, 15, 17 and 19-22 are therefore patentable over Huber at least for this reason.

Claims 4 and 12 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Huber (DE 199 58 548) as applied to claim 1 or 2 as applicable above, and further in view of Muller et al. (U.S. pat. no. 5,401,270). Claims 4 and 12 depend variously from independent Claims 1 and 2. Muller fails to remedy the above-mentioned shortcomings of Huber with respect to Claims 1 and 2. Accordingly, Claims 4 and 12 are patentable over the combination of these references.

¹ Manual of Patent Examining Procedure (MPEP) § 2131. See also *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claims 6, 8, 14 and 16 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Huber (DE 199 58 548) as applied to claim 1 or 2 as applicable above, and further in view of Horie et al (JP 05-113527). Claims 6, 8, 14 and 16 depend variously from independent Claims 1 and 2. Horie fails to remedy the above-mentioned shortcomings of Huber with respect to Claims 1 and 2. Accordingly, Claims 6, 8, 14 and 16 are patentable over the combination of these references.

Conclusion

In view of the preceding discussion, Applicants respectfully urge that the claims of the present application define patentable subject matter and should be passed to allowance.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call the undersigned attorney at the number below.

Please charge any additional required fees, including those necessary to obtain extensions of time to render timely the filing of the instant Amendment and/or Reply to Office Action, or credit any overpayment not otherwise credited, to our deposit account no. 50-1698.

Respectfully submitted,
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